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EXAMINER

HANSEN, COLBY M

ART UNIT	PAPER NUMBER
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3682

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GROUP 3600

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/902,536  
Filing Date: July 11, 2001  
Appellant(s): ALBERTSSON ET AL.

Adesh Bhargava, Reg. No. 46,553  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 5/13/2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The rejection of claims 2-6 and 11 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 2-6 and 11 rejected under 35 U.S.C. 103. This rejection is set forth in a prior Office Action, mailed on 12/17/2003.

Claims 2-4, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Pat. 4,529,352) in view of Mauletti (U.S. Pat. 5,606,235).

Suzuki et al. (U.S. Pat. 4,529,352) discloses an anthropomorphic manipulator, comprising an upper arm 13 which comprises a rear arm part (half of arm 13 farthest working tool 2) and which further comprises a front arm part (half of arm 13 nearest working tool 2) having a longitudinal axis, cabling 5 extending along the said arm parts, a supporting device 3a, 4 for guiding and holding the cabling in a stretched condition at the front arm part, the supporting device comprising a supporting arm 4 rotatably arranged on the rear arm part and an auxiliary arm arranged at the front arm part 3a.

However, Suzuki et al (US Pat. 4,529,35) does not disclose the rear arm being able to rotate about its longitudinal axis at an intermediate point.

Mauletti (US Pat. 5,606,235) discloses an anthropomorphic manipulator with upper arm having a front portion 12 and rear portion 11 wherein the front arm part is journalled in bearings in the rear arm part for relative rotation a rear arm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the immediate rotating portion of the Mauletti (US Pat. 5,606,235) arm within Suzuki et al (US Pat. 4,529,35) so as to allow for increased position and degrees of freedom for the end effector of Suzuki et al (US Pat. 4,529,35).

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. ('352) in view of Mauletti (US Pat. 5,606,235) as applied to claims 2-4 and 11 above, and further in view of Kizer (US Pat. 5,593,265).

Suzuki et al. ('352) discloses the claimed invention except for a spiral spring biaser for the support arm, or said spiral spring having a housing.

Kizer (US Pat. 5,593,265) discloses a spiral spring for biasing a support member relative to a base, said spiral spring housed in a container.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the spiral spring of Kizer (US Pat. 5,593,265) within the supporting device of Suzuki et al. ('352) as an obvious variant to the leaf spring 36.

**(11) Response to Argument**

Applicant argues that Suzuki et al. (U.S. Pat. 4,529,352) does not disclose a "device for holding and stretching the cabling such that loosely hanging loops are avoided, and stretching the cabling such that it does not conflict with objects in the working range of the robot". Firstly, Examiner disagrees with applicant's assessment that Suzuki et al. (U.S. Pat. 4,529,352) does not disclose a device for holding and stretching the cabling while keeping the cabling out of the working range of the robot. Given the extremely broad and ubiquitous terminology of "holding" and "stretching", Suzuki et al. (U.S. Pat. 4,529,352) certainly discloses said properties during the normal use of the robot. Secondly, Examiner contends that nowhere within the claim language is the limitation set forth that the cabling mounted such as to avoid loosely hanging loops. As such, applicant's argument that Suzuki et al. (U.S. Pat. 4,529,352) is without said function is moot.

Applicant argues that Suzuki et al. (U.S. Pat. 4,529,352) does not disclose the cabling

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being capable of being wound around the front arm part of the upper arm when front arm part rotates about its longitudinal axis. Examiner would agree with applicant's assessment that Suzuki et al. (U.S. Pat. 4,529,352) alone does not fulfill such a recitation. However, such a recitation would inherently be fulfilled by Suzuki et al. (U.S. Pat. 4,529,352) modified by the relatively rotatable front and rear arms of Mauletti (US Pat. 5,606,235). The upper arm 13 of Suzuki et al. (U.S. Pat. 4,529,352) modified, would now be relatively rotatable between its two ends, thereby, when said rotation is actuated, would cause a winding of cable 5a, between fixtures 3a and 4, around the upper arm.

Applicant argues that Suzuki et al. (U.S. Pat. 4,529,352) is a completely different robot from that claimed by the applicant and therefore applicant's invention is novel. Examiner finds the robots of applicant and Suzuki et al. (U.S. Pat. 4,529,352) to be analogous, but concedes they do not function identically. That is why Examiner, upon receiving newly added claim 11 on 9/24/2003, changed the rejection to modify Suzuki et al. (U.S. Pat. 4,529,352) in view Mauletti (US Pat. 5,606,235). Therefore applicant's argument that applicant's invention is novel in view Suzuki et al. (U.S. Pat. 4,529,352) is moot, as the invention stands rejected (claims 11, and 2-4) under 35 U.S.C. 103 (a) Suzuki et al. (U.S. Pat. 4,529,352) in view of Mauletti (US Pat. 5,606,235).

Applicant argues that Suzuki et al. (U.S. Pat. 4,529,352) discloses a "slacked" holding of the cable and therefore does not fulfill the limitations set forth in claim 11. Examiner disagrees, as nowhere within claim 11 does it stipulate that the device for holding and stretching the cabling" cannot have slack. As such, applicant's argument has no basis upon the claim language or allowability.

Finally, applicant argues that “the Examiner has failed to meet the burden set forth in MPEP 2141 for establishing a prima facie case of obviousness in concluding that the combined teachings of Suzuki et al. (U.S. Pat. 4,529,352) and Mauletti (US Pat. 5,606,235), teach or suggest each feature of claims 2-6 and 11”. Examiner disagrees, for there is certainly not only a motivation to modify the analogous inventions Suzuki et al. (U.S. Pat. 4,529,352) by the teaching of Mauletti (US Pat. 5,606,235), but also the reasonable expectation of success.

Regarding the motivation to modify Suzuki et al. (U.S. Pat. 4,529,352) in view of Mauletti (US Pat. 5,606,235), it is the position of the Examiner that utilizing the structural relationship of Mauletti (US Pat. 5,606,235), that the upper arm has front 12 and rear 11 portions that are longitudinally rotatable relative to one another within Suzuki et al. (U.S. Pat. 4,529,352) would be obvious to give the end effector (e.g. welder, gripper, probe, etc.) of Suzuki et al. (U.S. Pat. 4,529,352) increased freedom of movement and ability to work on a product with greater flexibility.

Regarding the reasonable expectation of success, it is the position of the examiner that Suzuki et al. (U.S. Pat. 4,529,352) and Mauletti (US Pat. 5,606,235) are analogous arts specifically pointing towards robotics that would be obvious to combine depending upon the motivation.

For the above reasons, it is believed that the rejections should be sustained.


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Respectfully submitted,

Colby Hansen  
July 22, 2004

Conferees  
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 7/22/04

  
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